CLAIMS

Accordingly, the scope of this invention is defined in the following claim~~s~~ and ~~their~~ its' legal equivalent and not restricted by the uses defined in this application.

What is claimed as my invention is:

1. A lid for a container, comprising of,

a uniquely designed and developed formed unit which when snugly and securely mounted on an associated mating container, acts as a cooling device by drawing the cooler outside ambient air into the container through a strategically placed cooling air-flow hole and then this cooler air is drawn up along with ~~and over~~ the hot liquid as it is sipped ~~(drawn)~~ through the lid's drinking hole, thus lowering the temperature of the hot liquid by the action of the ambient air outside the cup being pulled down into the cup through the cooling air-flow hole and then continuing up through and out the drinking hole in conjunction with the hot liquid creating a flow through action,

a mounting portion for engaging with an associated container to form a snug fit,

~~a depressed channel that traverses the lid in a circular manner inside the diameter of the container,~~

a raised portion forming a drinking area plane,

a drinking hole at the top of the drinking area plane,

an angular raised portion adjacent to and raising above the drinking hole area on the side of the drinking area plane containing the drinking hole,

an angular recessed portion with its' deepest position

along the side on which the drinking hole is located,

a cooling air-flow hole at the base of ~~in~~ the angular recessed portion and in line along the radius on which the drinking hole is located,

a cooling air-flow hole of comparable size to the drinking hole,

a cooling air-flow hole located close enough to the drinking hole to allow the cooler ambient air outside of the cup to be pulled into the cup by the vacuum action created by the sipping action when drinking from the drinking hole,

a cooling air-flow hole located far enough away from the drinking hole to allow thermodynamic properties to take affect on the hot liquid as the cooler ambient air outside the cup is pulled into the cup and then flows concurrently out of the drinking hole with the hot liquid reducing the temperature of the hot liquid,

a gradually raised portion leading away from and opposite to the drinking hole and cooling air-flow hole,

~~a portion returning to a plane at or below the drinking area plane,~~

~~a portion returning to the plane of the depressed channel,~~

and said HOT DRINK CUP LID WITH COOLING AIR-FLOW being designed for ease in use and economically viable for manufacture and marketing.

2. The lid of claim 1 where the position of said cooling air-flow hole is placed in a location of proximity to said drinking hole to facilitate the vacuum action created by sipping from the drinking hole in order to quickly draw the cooler outside ambient air into the cup

ahead of and out the drinking hole along with the hot liquid. ~~in a portion is arranged to mount and seat securely along the rim of an associated container.~~

3. The lid of claim 1 where said cooling air-flow hole is located in such a manner and position as to allow time for the thermodynamics of lowering the absolute temperature of the hot liquid to take effect by drawing the cooler outside ambient air over the higher temperature liquid as the liquid is sipped. ~~in a portion is arranged to raise up to form a sipping or drinking area with a hole for same.~~

4. The lid of claim 1 where the location of said cooling air-flow hole is limited to an arced area in said angular recessed portion of which the optimum location of said cooling air-flow hole is at the base of said angular recessed portion and in line along the radius on which said drinking hole is located,

~~in a portion is arranged to form an angular raised member and an angular recessed member adjacent to the drinking hole area and forming the backside of the drinking hole area.~~

~~5. The lid of claim 1 where in a portion is arranged with a cooling air-flow hole, in line with the drinking hole and located on the angular recessed portion of the area in line with the drinking hole.~~

~~6. The lid of claim 1 where in a portion is arranged to extend away from the base of the angular recessed member and the cooling air-flow hole and extend to the opposite side of the lid.~~

ABSTRACT OF THE DISCLOSURE

The "HOT DRINK CUP LID WITH COOLING AIR-FLOW" is an article of manufacture with a uniquely designed form arranged so that the hot liquid is cooled by an air-flow drawn over the liquid as it is sipped. The unique design, placement of the drinking hole and cooling air-flow hole create a structure whereby hot liquid can be cooled and sipped in a manner that reduces the temperature of the hot liquid as it transfers from the cup to the user. This cooling action is activated by the suction caused by the action of the user sipping at the drinking hole and concurrently drawing air from outside of the cup down through the air-flow hole and up through the drinking hole along with the hot liquid. Thus the hot liquid is cooled as the air is drawn up in conjunction with the hot liquid through the drinking hole.

DRAWINGS

Figure 1 -- HOT DRINK CUP LID WITH COOLING AIR-FLOW (perspective)

Legend

1. lid
2. mounting portion which mates with the associated container
3. recessed channel
4. raised portion
5. drinking area plane
6. drinking hole
7. recessed portion
8. cooling air-flow hole
9. angled portion
11. raised portion opposite the drinking hole
15. angular raised portion
16. angular recessed portion

Figure 2 - Side View

Legend

1. lid
2. mounting portion which mates with the associated container
3. recessed channel
4. raised portion
5. drinking area plane
6. drinking hole
7. recessed portion
8. cooling air-flow hole

9. angled portion
15. angular raised portion
16. angular recessed portion

Figure 3 -- Top View

Legend

1. lid
2. mounting portion which mates with the associated container
3. recessed channel
5. drinking area plane
6. drinking hole
8. cooling air-flow hole
9. angled portion
15. angular raised portion
16. angular recessed portion

Figure 4 -- Sectional View

Legend

1. lid
2. mounting portion which mates with the associated container
3. recessed channel
4. raised portion
5. drinking area plane
6. drinking hole
7. recessed portion
8. cooling air-flow hole
9. angled portion
11. raised portion opposite the drinking hole
15. angular raised portion

16. angular recessed portion

Figure 5 -- Diagrammatic View of Lid in Use.

1. lid
6. drinking hole
8. cooling air-flow hole
13. action path of air and liquid flow
14. cup
17. hot liquid/beverage